

SECTION 1

SUMMARY

1.1 Description of the Proposed Project

The purpose of the proposed project is to provide increased capacity and safety on M-15 between I-75 and I-69. Need has been generated by rapid growth in Oakland and Genesee counties, reflecting rapid economic expansion. M-15 needs four through travel lanes for the entirety of the corridor, to serve existing and projected travel demand and provide a safe road for the expanding corridor population.

The M-15 project area begins at I-75 in Oakland County and extends 20 miles north to I-69 in Genesee County (Figure 1-1). The Villages of Ortonville and Goodrich adjoin M-15. In each case most of the downtown area is off-line on a major cross road. The proposed project is to reconstruct M-15 to two through travel lanes in each direction. An extensive analysis, including six rounds of public meetings, led to a Preferred Alternative that is a mix of narrow boulevard, very narrow boulevard, and five-lane construction. Ramp modifications are recommended at I-75, but no changes are proposed at I-69. Though a Preferred Alternative has been identified, the final selection of an alternative will not be made until the alternatives' impacts and comments on the Draft EIS and from the public hearing have been fully evaluated.

M-15 is a two lane rural highway with narrow shoulders and ditch drainage for most of its length. From Hubbard Road south to I-75 additional lanes are provided for right and left turns. From Cranberry Lake Road south two through lanes are provided in each direction to match the cross section of the bridge over I-75. The right-of-way through much of the corridor is 120 feet. The most notable exception is through Goodrich, where the right-of-way is only 66 feet.

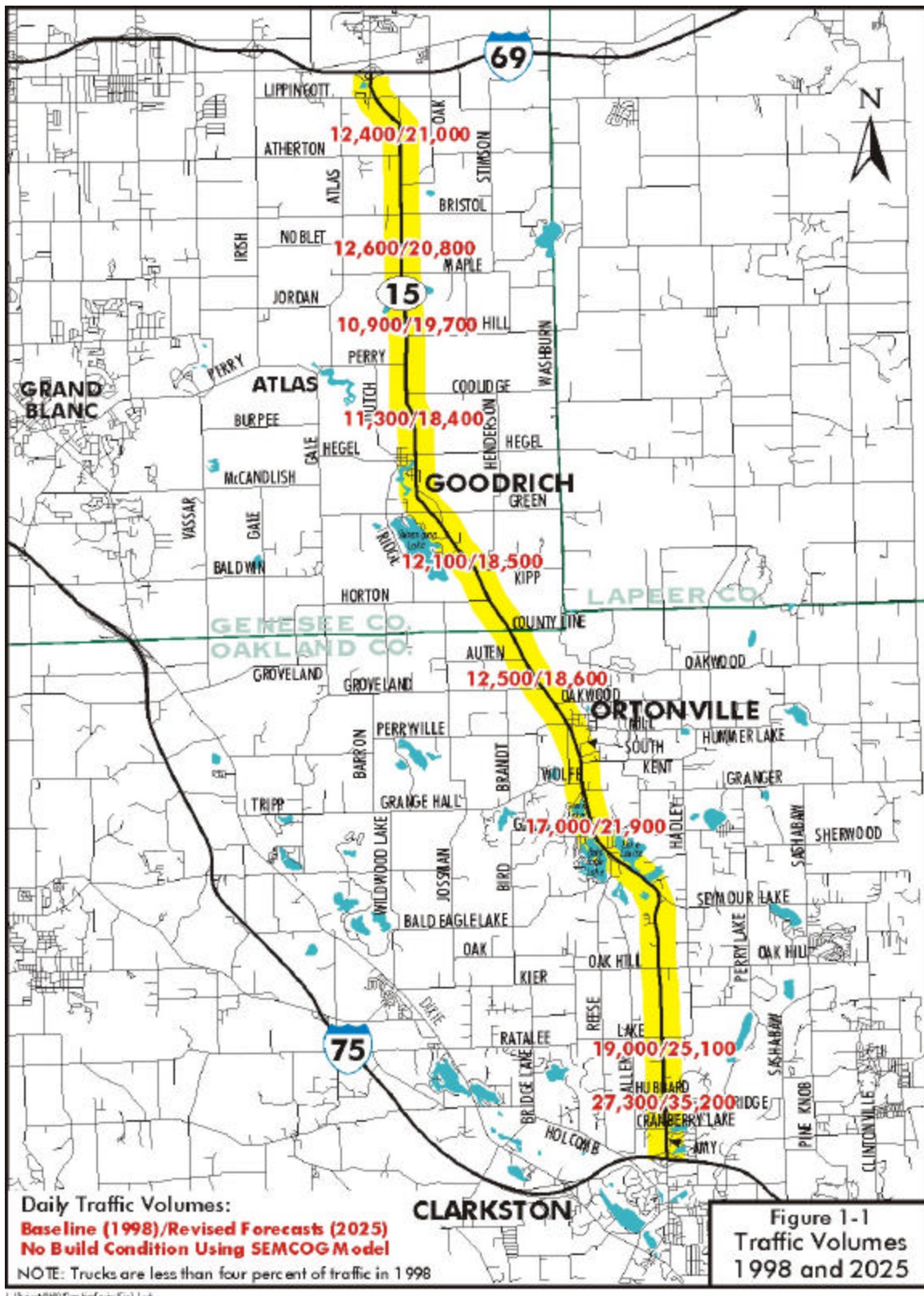
Historically, the M-15 corridor has been a low-density rural corridor with development focused around the communities of Ortonville in Oakland County (2000 population 1535) and Goodrich in Genesee County (2000 population 1353) (Table 1-1). Out migration from the population centers of Detroit and Flint and a very high rate of growth in Oakland County have resulted in increased residential development in the study area. Lack of alternative local roads has focused

Table 1-1
Corridor Population Growth

Townships	1990	2000	% Growth
Independence	23717	32581	37%
Brandon	12051	14765	23%
Groveland	4705	6150	31%
Atlas	5551	7257	31%
Davison	14685	17722	21%
TOTAL	60709	78475	29%
Villages			
Ortonville	1252	1535	23%
Goodrich	916	1353	48%

Source: US Census

Note: Ortonville and Goodrich are included in the township totals.



much of the travel to this development on the state trunkline, M-15. Regional planning agencies such as the Southeast Michigan Council of Governments (SEMCOG), the Oakland County Planning and Economic Development Services Division, the Genesee County Metropolitan Planning Commission, the planning units of Independence, Brandon, Groveland, Atlas and Davison townships (the first three are in Oakland County, the latter two in Genesee County), and the Villages of Ortonville and Goodrich forecast that development will continue at varying rates. Table 1-1 shows growth rates over the last decade.

The slowest growing area, Davison Township, had a population increase of almost 21 percent. The fastest growing area, Goodrich, grew by almost 48 percent. Overall, the townships along the corridor grew 29 percent.

M-15 is carrying increasing volumes of traffic. A Traffic Report¹ found a need for four through travel lanes throughout the corridor in the design year of 2025 (see Appendix A). Generally a two-lane road can carry up to about 14,400 vehicles a day in a semi-rural setting with two intersections per mile. This volume reflects a Level of Service (LOS) of C, which FHWA considers desirable in rural settings. Absolute capacity is about 15,600 vehicles a day. (Note that a LOS of A represents free-flow conditions and LOS F reflects a breakdown of traffic flow.) Figure 1-1 shows that existing volumes already exceed LOS D in the southern section of the corridor and the forecast of future volumes demonstrates the need for four through lanes. A four-lane divided road can carry over 30,000 vehicles a day at LOS C, while a five-lane section will carry slightly fewer. The proposed project will operate at LOS C or better over its entire length.

1.2 Alternatives

Several improvement alternatives were analyzed for this project, as were the No Action Alternative and a Mass Transit Alternative. The three “build alternatives” were: 1) Low Cost Improvements / Transportation Systems Management; 2) New Alignments; and, 3) M-15 Reconstruction. These alternatives were developed from the public involvement process. Documentation of the alternatives analysis process is found in three technical memoranda prepared for the study².

1.2.1 No Action Alternative

The No Action Alternative would consist of continued regular maintenance of M-15. The four-lane section of M-15 through Goodrich was re-stripped in 1999 as a safety project from four lanes to three (center turn-lane configuration) with some curb added. M-15 was repaved in Genesee County in 1999 and in Oakland County in 2000. Minor improvements to shoulders and guard rails occurred at these times. Traffic signals have also been added as congestion has increased. The No Action Alternative would continue this pattern of maintenance and minor adjustments. It would not require the acquisition of additional right-of-way. Unacceptable levels of traffic service would result, however.

¹ “Traffic Report, M-15—I-75 to I-69,” The Corradino Group, November 2001.

² “Technical Memorandum No. 1,” The Corradino Group, August 2000. “Technical Memorandum No. 2,” The Corradino Group, October 2000. “Technical Memorandum No. 3,” The Corradino Group, March 2001.

1.2.2 Low-Cost Improvements / Transportation Systems Management

This alternative called for paving of gravel roads to provide alternative routes to M-15, upgrading intersections along M-15, improving incident management, improving access control, and encouraging reduced trips. Travel analysis found it did not meet the purpose and need for the project. Even with all the proposed measures in place, projected traffic volumes showed a need of four through-travel lanes along the entire length of M-15.

1.2.3 New Alignments

These options considered improving Irish Road (west of and parallel to M-15 in the north section of the corridor) and constructing bypasses of the Village of Goodrich or the Glass Road / Seymour Lake area. Traffic modeling found these potential alternative routings, tested separately, would not divert sufficient traffic from M-15 to meet the purpose and need of the project. The testing included variations of the land use development scenario used in the travel model for the area. One variation reallocated land use in the corridor based on local government input so that development is shifted north towards I-69 from Oakland County. Another land use scenario reduced the growth in Atlas Township by 75 percent. Under both scenarios the demand on M-15 for four lanes remained.

1.2.4 M-15 Reconstruction

Because traffic forecasts show four through travel lanes are required to meet travel demand, the “super-2” and three-lane options were discarded. Given the need for turning movements through the length of the corridor, little application of a four-lane road was found, compared to a five-lane section, which allows for turn movements at all required locations. A narrow boulevard was found to have merit from traffic and safety standpoints, while still allowing turns as required. A wide boulevard, by comparison, was found to have substantially more impacts than the narrow boulevard and was dropped from further consideration when it was determined that the narrow boulevard was equal from a traffic standpoint and acceptable from a design standpoint.

1.2.5 Alternatives Eliminated from Further Study

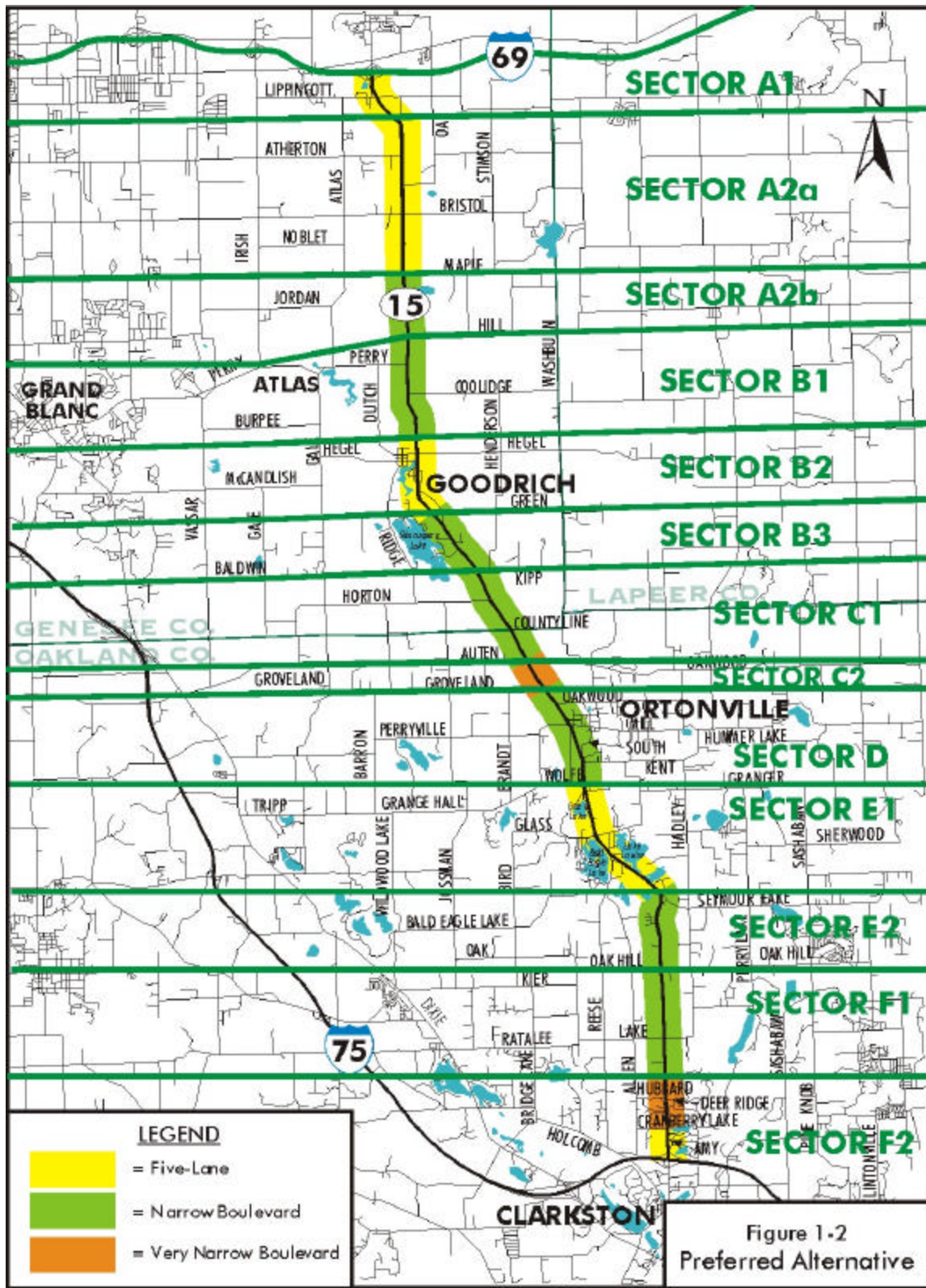
It was concluded that even under the best-case scenario the Mass Transit, Low-Cost / TSM alternatives could not reduce or divert travel demand to the point that two lanes for through travel in each direction were not needed. Therefore, they were eliminated because they are not practical alternatives.

The bypass alternatives and the Irish Road option did not divert sufficient travel from M-15 to reduce the need for four through travel lanes. Therefore, they were eliminated because they are not practical options.

The full-width or “wide” boulevard was more intrusive and caused more impacts than the “narrow” boulevard, so the latter was favored and the former eliminated because it is not a practical option.

1.2.6 Preferred Alternative

The narrow boulevard and five-lane sections were considered practical alternatives and were evaluated further on a sector-by-sector basis, resulting in a preferred alternative (Figure 1-2).



This alternative incorporates the strengths of each cross section to maximize safety and traffic flow, while minimizing impacts to wetlands and historic resources. It is a blend of five-lane road, narrow boulevard and very narrow boulevard (recommended where access needs are few and historic or wetland avoidance is important). The Engineering Report³ for the project shows the existing and proposed roadway and right-of-way (see Appendix B).

Although a Preferred Alternative has been identified, the No Action Alternative remains an option. A final alternative will not be selected until after the public hearing and comment period are concluded and all comments have been considered.

1.3 Impacts

The following is a summary of the impacts associated with the No Action Alternative and the Preferred Alternative (Table 1-2). A more detailed description of impacts is found in Section 4. Proposed mitigation measures are found in Section 5.

1.3.1 Traffic and Safety

The proposed project will substantially improve traffic flow over the No Action Alternative. The entire length of the corridor will operate at a Level of Service (LOS) of C or better in the design year (2025), if the Preferred Alternative is chosen, compared to breakdown conditions in the south end of the corridor with the No Action Alternative. The Preferred Alternative would be expected to reduce the number of total crashes in 2025 by about 60 (or about 10 %), when compared to the No Action Alternative.

1.3.2 Relocations, Community Cohesion, Environmental Justice, Land Use, and Farmland

The proposed project is expected to require the relocation of 38 dwelling units (all single-family residences) and 40 businesses, that provide about 200 jobs. Adequate relocation housing and commercial space is available in the corridor.

Increased traffic will make it more difficult to cross the road, which is detrimental to community cohesion, if no action is taken. Providing a boulevard section in key locations such as in Independence Township and in Ortonville responds to community desires expressed during the course of the study to develop a road that supports community cohesion, by providing opportunities for landscaping, village identification, and an intermediate dwell space for those crossing the road.

A review of data on low-income and minority populations finds the project would not result in disproportionately high and/or adverse human health or environmental effects on minority or low-income populations.

Rapid growth in Oakland County puts continued pressure on communities and townships in the corridor that have grown very rapidly in the last decade (Table 1-1). Undeveloped land, in most cases already zoned for low-density residential use will continue to develop with or without the project. The proposed improvements are consistent with local and regional land use planning.

³ "Preliminary Engineering Report," Orchard, Hiltz and McCliment, November 2001.

**Table 1-2
Summary of Impacts**

Impact Category	Expected Impact
Traffic and Safety	M-15 will improve to at least Level of Service C. Safety will improve.
Relocations	38 single-family residences, 40 businesses, 200 employees.
Community Cohesion	Existing high speed, two-lane rural road acts as barrier. Five-lane sections will continue this. Boulevard sections offer community enhancement and a mid-road refuge for pedestrians and bicyclists.
Environmental Justice	No disproportionately high and adverse human health or environmental effects on minority or low-income populations.
Land Use	Consistent with planning documents. Several documents emphasize improved access control.
Farmland/Act 233 Land	3 acres of active farmland needed. No prime or unique farmlands. No Act 233 lands.
Economics	Added capacity responds to growth. Tax base losses from right-of-way acquisition represent 0.014 % of the property taxes collected in townships and villages in corridor.
Air Quality	Project will reduce idle emissions and improve traffic flow. No violations of the National Ambient Air Quality Standard for carbon monoxide. Computer modeling of conformity is necessary after project inclusion in SEMCOG's and Genesee County Metropolitan Planning Commission's long-range plans.
Noise	175 dwelling units exposed to 66 dBA or more (residential criterion), compared to 145 with No Action. No mitigation is reasonable because of either front yard exposure and/or low density of homes affected.
Surface Water Impacts	1 lake crossing, 2 pond crossings, 4 perennial stream crossings, 6 intermittent stream crossings, 5 county drain crossings.
Wetlands	2.5 acres of Palustrine Forested & lake fringe, plus 10.9 acres of Palustrine Open-water, Palustrine Emergent, and Palustrine Shrub-Scrub. Total 13.4 regulated acres.
Threatened/Endang. Species	1 state threatened and 3 state special concern species found.
Cultural Resources	12 potential <i>National Register</i> eligible sites affected. Adverse effects on several sites requiring Draft Section 4(f) Evaluation and Memorandum of Agreement. Phase II analysis required at one archaeological site.
Parks/Recreation	No contiguous parks. M-15 is Michigan's first Heritage Recreational Route.
Visual Conditions	Mix of five-lane and boulevard cross sections in response to local desire for aesthetic road.
Contaminated Sites	31 sites total are recommended for further testing, including: 1 dump; 7 sites potentially affected by hazardous material handling; and, 23 underground storage tank sites.
Soils	Organic soils and wetlands pose greatest challenge. This is a manageable situation.
Utility Systems	Relocation of sewer line on west side of M-15 north of Bristol Road. No effect on high-tension electric line.
Secondary and Cumulative	Project responds to growth, which totaled 29 % in 1990s. Quality of life will be maintained.
Energy	Energy used during construction. Fuel savings from improved traffic flow upon opening.
Project Cost	
Right-of-way	\$ 34.9 million
Construction	\$ 78.4 million
Design & Management	\$ 19.6 million
Total	\$ 132.9 million

Source: The Corradino Group

Approximately three acres of farmland would be needed by the project. No prime and unique farmlands would be taken, nor any land enrolled in the P.A. 233 program.

1.3.3 Economics

Economic activity in the project area is generated by a variety of market sectors including retail trade, services, education, and public administration. The corridor has been subject to rapid development. This trend is expected to continue.

M-15 is a good road with access to land suitable for residential development, which has contributed to today's congestion and continued predictions of population and traffic growth. Adding capacity to M-15 is a response to the growth that has already occurred and the growth predicted by the local political jurisdictions in the corridor.

Property acquisition will result in a reduction in real property tax revenues of about \$362,000, based on the right-of-way cost estimate. This represents only 0.014 percent of the property taxes collected by the townships and villages in the corridor. The largest effect would be on Ortonville, which has a relatively small tax base and the least amount of undeveloped property. The increase in State Equalized Value of township and village properties over the coming years will outweigh potential losses. Many of the relocated businesses and residents are likely to relocate within the corridor, minimizing tax losses.

1.3.4 Air Quality

Air quality will improve, as there will be less idling and smoother traffic flow. A test of carbon monoxide (CO) concentrations at the busiest intersection in the M-15 corridor where humans might be present found the ambient air quality standard would not be violated. Approval of the Final EIS for this project requires that the project be added to the long-range plans of the Southeast Michigan Council of Governments (SEMCOG) and the Genesee County Metropolitan Planning Commission after a determination of air quality conformity.

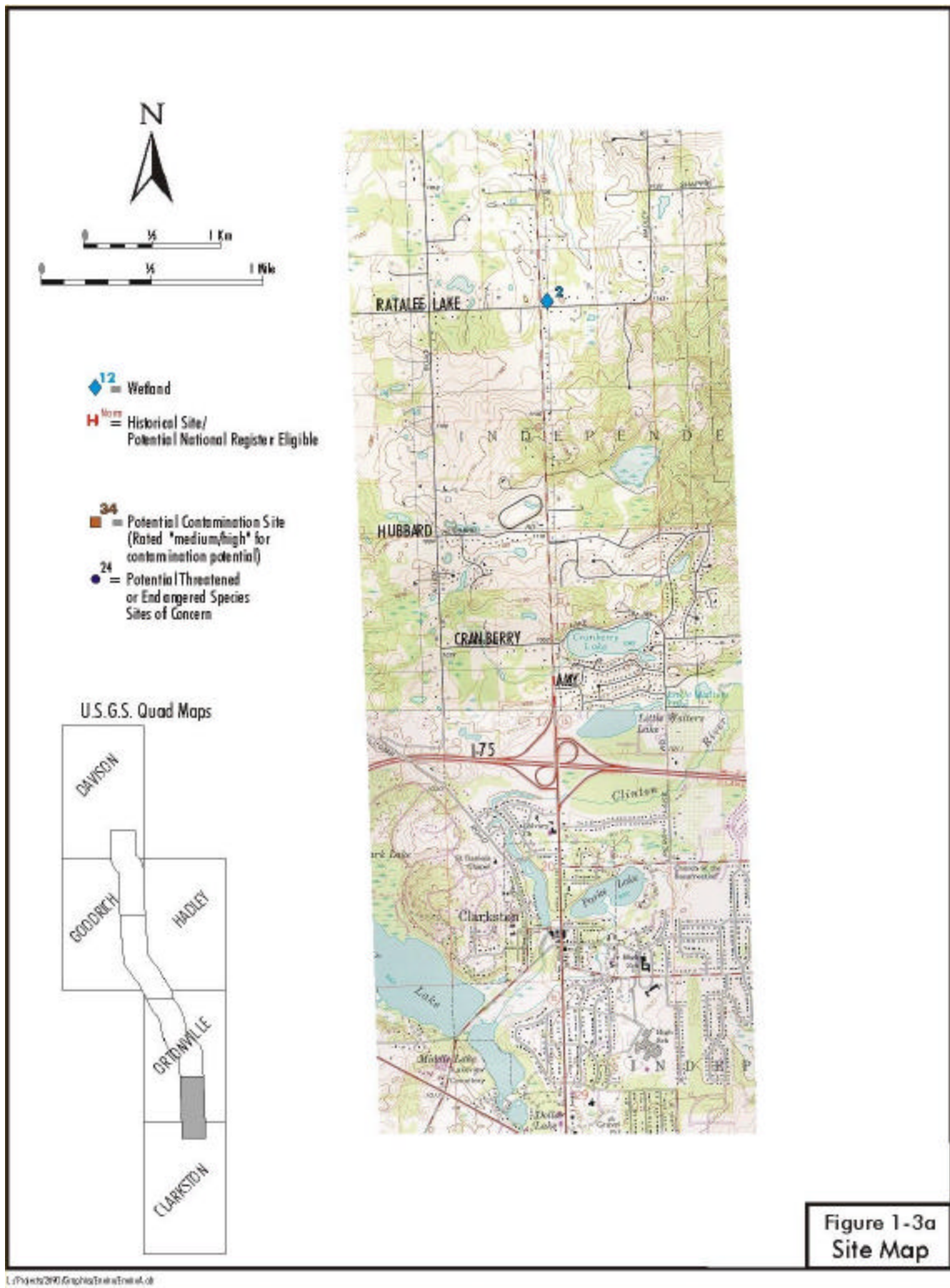
1.3.5 Noise

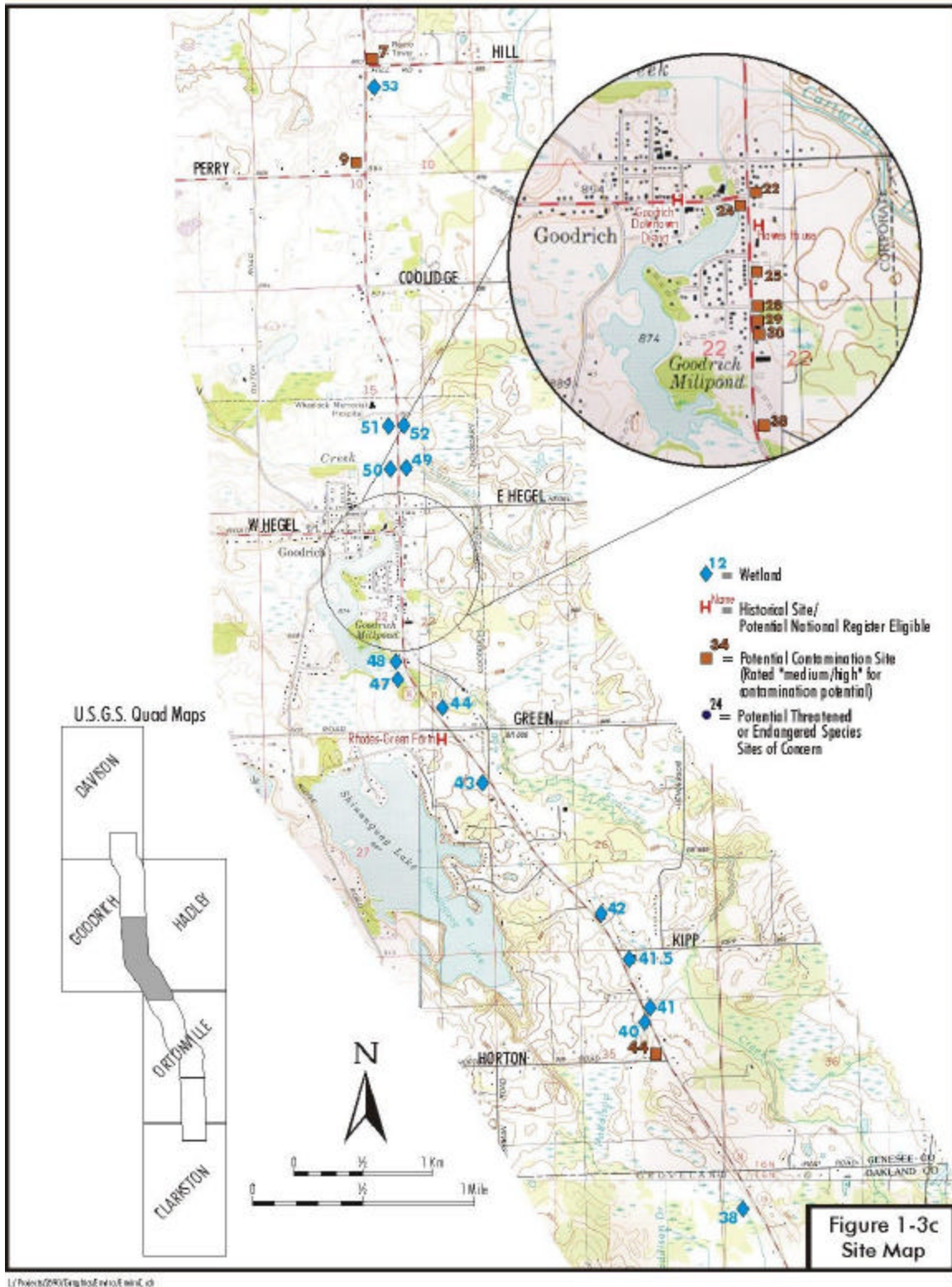
It is forecast that the Preferred Alternative will expose 175 dwelling units to noise of 66 dBA or higher (the threshold for determining the residential properties impacted), compared to 145 with the No Action Alternative. No mitigation is reasonable because noise mitigating walls are not effective when placed in the front of homes with gaps created for driveways.

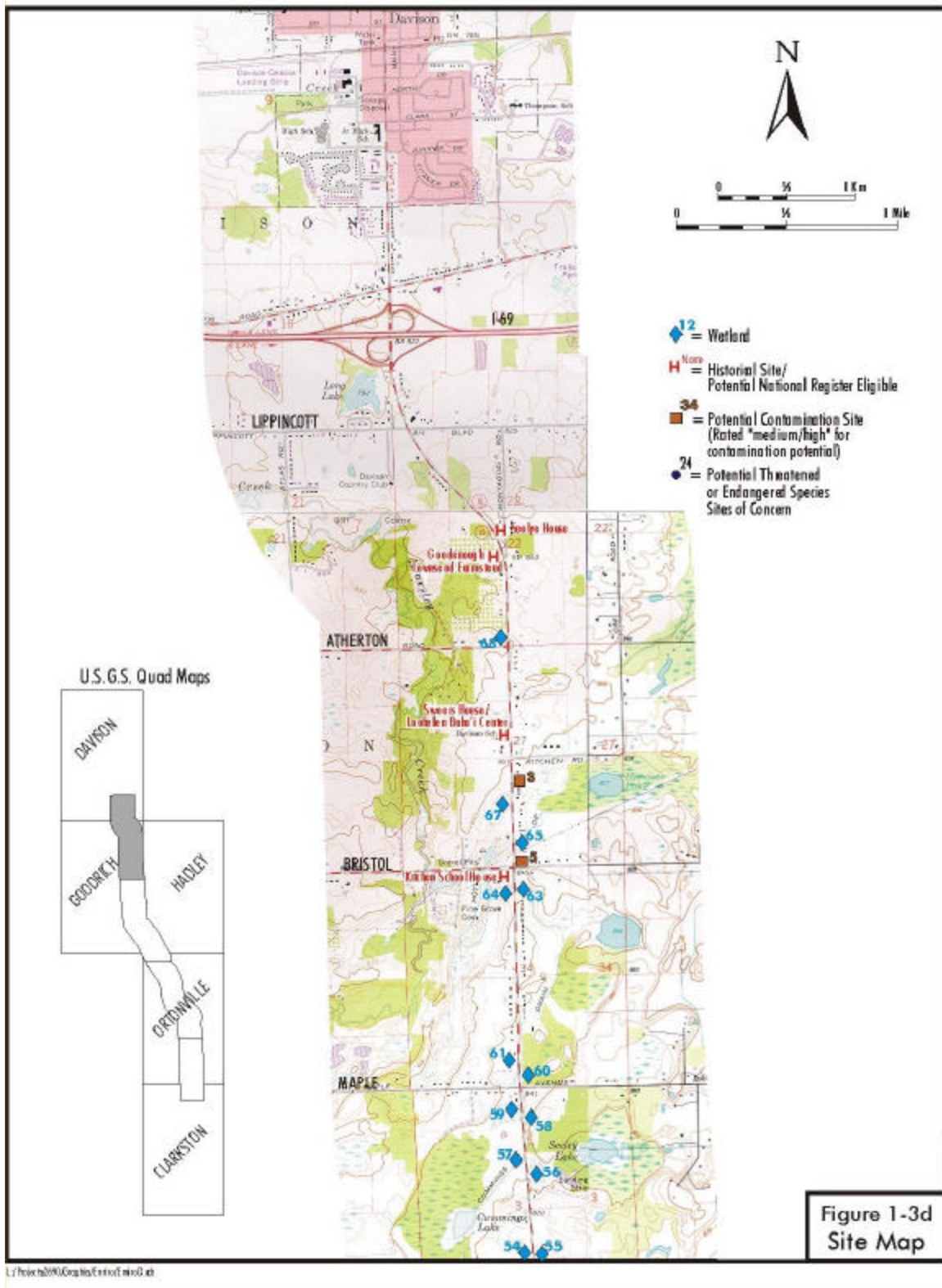
1.3.6 Ecological Resources

Approximately 14 acres of regulated wetlands would be directly affected (some is already roadway right-of-way), requiring replacement through agreement with the Michigan Department of Environmental Quality (MDEQ) and the U.S. Army Corps of Engineers. The No Action Alternative would have no effect on wetlands. A summary of locations of wetlands, historic sites, potentially contaminated sites, and sites reviewed in the threatened and endangered species inventory is presented in Figure 1-3 and Table 1-3.

Surface water quality will be protected by erosion control and stormwater management during construction and after. The No Action Alternative would not change existing drainage patterns or flow.







**Table 1-3a
Wetland Sites Shown on Figure 1-3**

Wetland ID	Figure Number	Priority¹ Class	Roadway Type	Wetland Community Classification²	MDEQ Regulated?³	Total Acres Impact	Percent PFO or Lake Fringe	Lake Fringe or PFO Impact (Acres)	POW/PSS/PEM Impact (Acres)	Description
W68	1-3d	3	5-lane	PEM	N	0.01	0	0.00	0.01	Cattail, elm, aster; organic muck soils with some recent mineral soil deposition
W67	1-3d	2	5-lane	PEM	N	0.16	0	0.00	0.16	Cattail, few elm, lake fringe; gray mineral soils with bright mottles
W65	1-3d	3	5-lane	POW/PEM	Y	0.02	0	0.00	0.02	Hoyle Drain; cattail, boxelder, reed canary grass, blue vervain, duck weed; organic muck soils.
W64	1-3d	3	5-lane	POW/PEM	Y	0.01	0	0.00	0.01	Hoyle Drain; cattail, boxelder, reed canary grass, blue vervain, duck weed; organic muck soils.
W63	1-3d	2	5-lane	PFO/POW	Y	0.09	80	0.07	0.02	Cummings Drain, floodplain, Carex sp., inundated, loamy grayish soil with bright mottles, mineral sediment, some muck soils on east side.
W61	1-3d	3	5-lane	PEM/PSS	Y	0.33	0	0.00	0.33	Cattails, phragmites, elm, elder, gray dogwood; organic soils
W60	1-3d	1	5-lane	POW/PFO	Y	0.74	70	0.52	0.22	Cummings Drain, ash, cottonwood, silver maple; organic soils
W59	1-3d	3	Narrow blvd	PEM/PSS	Y	0.21	0	0.00	0.21	Drain w/cattails, dogwood; organic muck soils
W58	1-3d	3	Narrow blvd	POW/PFO	Y	0.60	70	0.42	0.18	Cummings Drain, silver maple, cottonwood; organic muck soils
W57	1-3d	2	Narrow blvd	PEM	Y	0.21	10	0.02	0.19	Drain with cattails, willows, ash; mucky sands
W56	1-3d	3	Narrow blvd	PEM/PSS	Y	0.22	5	0.01	0.21	Cattail, dogwood, willow; grayish mineral soils with bright mottles

Note: footnotes at end of table.

**Table 1-3a
Wetland Sites Shown on Figure 1-3 (Continued)**

Wetland ID	Figure Number	Priority¹ Class	Roadway Type	Wetland Community Classification²	MDEQ Regulated?³	Total Acres Impact	Percent PFO or Lake Fringe	Lake Fringe or PFO Impact (Acres)	POW/PSS/PEM Impact (Acres)	Description
W55	1-3d	2	Narrow blvd	PFO/PEM	N	0.20	90	0.18	0.02	Green ash, elm, 6" water marks, buttressed roots, organic muck soils
W54	1- 3d	2	Narrow blvd	PFO/PEM	N	0.13	40	0.05	0.08	Elm, reed canary grass; grayish loam soils with bright mottles
W53	1- 3c	3	Narrow blvd	PEM	N	0.10	5	0.01	0.10	Cattails; organic muck soils
W52	1- 3c	3	Narrow blvd	PEM/PFO	N	0.18	25	0.05	0.14	Cottonwood, ash, phragmites, reed canary grass, typha; mucky loam soils
W51	1- 3c	3	Narrow blvd	PEM	N	0.02	0	0.00	0.02	Open water and reed canary grass associated with drain; grayish loamy soils with bright mottles
W50	1- 3c	2	Narrow blvd	PEM/POW	Y	0.02	5	0.00	0.02	Reed canary grass, Cartwright Drain; inundation
W49	1- 3c	2	Narrow blvd	PEM/POW	Y	0.02	5	0.00	0.02	Reed canary grass, Cartwright Drain; inundation
W48	1- 3c	1	5-lane	PEM/PSS/PFO	Y	0.50	10	0.05	0.45	Cattails, sedges, red osier dogwood, black ash; organic muck soils, inundation, saturation
W47	1- 3c	1	5-lane	PFO/PEM	Y	0.30	60	0.18	0.12	Green ash, elm, water marks, buttressed roots, reed canary grass, organic muck soils
W44	1- 3c	1	5-lane	PFO/POW	Y	0.73	90	0.65	0.07	Elm, ash, cottonwood, skunk cabbage; associated with Kearsley Creek; muck soils
W43	1- 3c	2	Narrow blvd	PFO	N	0.03	50	0.01	0.01	Silver maple, cottonwood, cattails; organic muck soils
W42	1- 3c	3	Narrow blvd	PEM	N	0.06	0	0.00	0.06	Cattails; mucky sands

Note: footnotes at end of table.

**Table 1-3a
Wetland Sites Shown on Figure 1-3 (Continued)**

Wetland ID	Figure Number	Priority¹ Class	Roadway Type	Wetland Community Classification²	MDEQ Regulated³	Total Acres Impact	Percent PFO or Lake Fringe	Lake Fringe or PFO Impact (Acres)	POW/PSS/PEM Impact (Acres)	Description
W41.5	1-3c	3	Narrow blvd	POW/PEM/PSS	N	0.11	0	0.00	0.11	70% POW, 30% PEM, spike-rush, reed canary grass; grayish loam with bright mottles; possibly a detention basin for church parking
W41	1- 3c	3	Narrow blvd	POW/PEM	Y	0.01	0	0.00	0.01	Reed canary grass, tussock sedge; inundated (Paddison Drain)
W40	1- 3c	3	Narrow blvd	POW/PEM	Y	0.01	0	0.00	0.01	Reed canary grass, tussock sedge; inundated (Paddison Drain)
W38	1- 3c	2	Narrow blvd	PEM/PSS	Y	0.10	0	0.00	0.10	Reed canary grass, Grey dogwood, Spiraea alba; mucky loam (85% PEM)
W37	1- 3b	1	Very narrow blvd	PEM	Y	0.34	0	0.00	0.34	Includes "fen" species: pitcher plants, shrubby cinquefoil, spiraea, cattails; mucky peat soil (west side of M-15)
W36c	1- 3b	1	Very narrow blvd	PEM/PSS	Y	0.45	0	0.00	0.45	Includes "fen" species; northern half is reed canary grass/sedge meadow; southern half is fen with shrubby cinquefoil, twig rush; muck soils
W36b	1- 3b	1	Very narrow blvd	PEM/PSS	Y	0.47	0	0.00	0.47	PEM/PSS with fen species; shrubby cinquefoil, twig rush, spirea, tamarack; muck soil
W36a	1- 3b	1	Very narrow blvd	PFO/PSS/PEM	Y	0.53	20	0.11	0.43	Mixed community of green ash, willow, reed canary grass, sedges, red osier dogwood
W35	1- 3b	3	Very narrow blvd	PEM/POW	Y	1.60	0	0.00	1.60	70% PEM: cattails, reed canary grass; mucky sand soils; 30% POW
W34	1- 3b	2	Very narrow blvd	POW/PEM	Y	0.73	0	0.00	0.73	Pond with wetland; 95% POW, 5% PEM; reed canary grass; inundated

Note: footnotes at end of table.

**Table 1-3a
Wetland Sites Shown on Figure 1-3 (Continued)**

Wetland ID	Figure Number	Priority¹ Class	Roadway Type	Wetland Community Classification²	MDEQ Regulated?³	Total Acres Impact	Percent PFO or Lake Fringe	Lake Fringe or PFO Impact (Acres)	POW/PSS/PEM Impact (Acres)	Description
W33	1-3b	3	Narrow blvd	PEM/POW	Y	0.09	0	0.00	0.09	West side: Typha, Salix, Sambucus canadensis; East side next to school soccer field: POW, sensitive fern, reed canary grass, cattails; mucky sands, inundated
W32	1-3b	2	Narrow blvd	PEM	Y	0.13	0	0.00	0.13	Reed canary grass, cattail; organic soils
W31	1-3b	2	Narrow blvd	PEM/PSS	Y	0.27	0	0.00	0.27	Red osier dogwood, willow, cattail, sedges, organic soil
W30	1-3b	1	Narrow blvd	POW	Y	0.12	0	0.00	0.12	Duck Creek with little or no wetland fringe
W29	1-3b	1	Narrow blvd	PEM/POW	Y	0.37	0	0.00	0.37	Sedges, cattail wetland with Duck Creek; organic soils; inundated
W27	1-3b	1	Narrow blvd	PEM/PSS/PFO	Y	0.19	5	0.01	0.18	Wetlands with Duck Creek; 65% cattail PEM; 30% red osier dogwood PSS; 5%PFO with ash, cottonwood; organic soils.
W26	1-3b	1	Narrow blvd	PEM/PSS/PFO	Y	0.43	10	0.04	0.39	Reed canary grass, dogwood, ash wetland associated with Duck Creek
W25	1-3b	2	Narrow blvd	POW	Y	0.45	0	0.00	0.45	Duck Creek (channelized) no wetland fringe
W24	1-3b	2	5-lane	PFO/PEM	Y	0.10	100	0.10	0.00	Boxelder, ash, cottonwood, reed canary grass; mucky sand soils; Green Lake-lake-fringing wetland
W12	1-3b	3	5-lane	PEM	Y	0.90	0	0.00	0.90	Cattails, giant reed; organic soils
W10.5	1-3b	3	Narrow blvd	PEM	Y	0.08	0	0.00	0.08	Cattails; organic soils
W10	1-3b	3	Narrow blvd	PEM	Y	0.72	0	0.00	0.72	Cattails; organic soils

Note: footnotes at end of table.

**Table 1-3a
Wetland Sites Shown on Figure 1-3 (Continued)**

Wetland ID	Figure Number	Priority¹ Class	Roadway Type	Wetland Community Classification²	MDEQ Regulated?³	Total Acres Impact	Percent PFO or Lake Fringe	Lake Fringe or PFO Impact (Acres)	POW/PSS/PEM Impact (Acres)	Description
W9	1-3b	3	Narrow blvd	PFO	N	0.05	100	0.05	0.00	Cottonwood, silver maple
W8	1-3b	2	Narrow blvd	PEM	Y	0.25	0	0.00	0.25	Cattail; mucky sand soils
W7	1-3b	2	Narrow blvd	PEM	Y	0.15	0	0.00	0.15	Cattail; mucky sand soils
W5	1-3b	2	Narrow blvd	PEM/PSS	Y	0.26	0	0.00	0.26	Dogwood, reed canary grass; mucky sand soils
W4	1-3b	1	Narrow blvd	PFO	Y	0.19	0	0.00	0.19	Black willow, silver maple green ash; grayish loam soils with bright mottles
W3	1-3b	1	Narrow blvd	PFO/PSS	Y	0.47	80	0.37	0.09	Cottonwood, silver maple, 20% PSS (dogwood); grayish loam soils with bright mottles
W2	1-3a	3	Narrow blvd	PFO/PEM	N	0.02	40	0.01	0.01	Elms, turf grasses; grayish loam soil with bright mottles
Total						14.48		2.91	11.57	

¹Priority classes applied to this project were: 1, highest quality; 2, medium quality; and 3, lowest quality.

²PEM – Palustrine emergent

³Preliminary determination. MDEQ will make final determination whether wetland is regulated or not. Y = yes, N = no.

PSS – Palustrine shrub-scrub

PFO – Palustrine forested

POW – Palustrine open-water

Note: All wetland impacts will be mitigated because of the use of federal funds (E.O. 11990).

Source: Tilton and Associates

Table 1-3b
Potential National Register Historical and Archaeological Sites Shown on Figure 1-3

Site Name	Location	Description	Effect
Dawley Residence / Stone Store	850 Ortonville West side M-15 north of Wolfe Road	Former residence, now gift shop with stone pillars in existing right-of-way, circa 1916	New right-of-way would be about 40' into yard for wider road.
Ortonville West District	Mill Street, clustered at Narrin Street	Queen Anne style house built on George Narrin's land	New right-of-way will demolish 46 Mill Street garage.
Michigan Milk Producers Receiving Station	126 N Ortonville Road. East side M-15 N of Myron Street	Example of small Art Moderne style industrial facility	New right-of-way line would be about 10' from building.
Ortonville Cemetery	West side M-15 south of Oak Wood Road	Cemetery, circa 1840-1940	Existing pavement edge would be maintained. No effect on historic portion of cemetery.
Mills Farmstead	610 N Ortonville Road. East side M-15 at Groveland Road	Circa 1860 well preserved farm	Existing right-of-way line maintained.
J. Westerby Farmstead	1215 N Ortonville Road	Example of popular trend in fieldstone cladding, circa 1880	Existing right-of-way line maintained.
Rhodes-Green Farm Historic District	10448 Green Road on West side M-15	Association with an early settler and agriculture, circa 1860/1881	New right-of-way would be about 20' to 30' into yard for wider road.
Henry Hawes Residence Historic District	8083 State Street on East side M-15 in Goodrich	Italianate architectural example, circa 1870.	New right-of-way would be about 30' into front yard, including two large trees.
Kitchen School House	4010 State Road on SW corner M-15 and Bristol	Early school, circa 1870	Existing right-of-way line maintained.
Freeman Sweers Residence / Louhelen Baha'i Center	3208 State Road. West side M-15 north of Bristol Road	House circa 1885. Retreat founded in 1931 as Baha'i faith school and center	Existing right-of-way line maintained, but trees may be removed.
Goodenough Townsend Residence	2430 State Road	Example of residential Gabled-Ell architecture, circa 1875	New right-of-way would be 20'+ into front yard with smaller trees likely removed, but larger yard trees remaining.
Seelye House	2224 Montague backing up to M-15	Example of residential brick Gabled-Ell architecture, circa 1875	New right-of-way would be about 30' into back yard.
20OK480	East side M-15 south of Oak Hill Road	Archaeological remains of farmstead	Phase II testing required to determine National Register eligibility. New right-of-way would extend over much of site.

Source: Commonwealth Cultural Resources Group

Table 1-3c
Potential Contamination Sites Shown on Figure 1-3

SID No.	Site Name (Former Name or Use)	Address or Location	City	Records/ Observations							ROW W or A	Contamination Potential Rating	Comment
				CERCLIS/NPL	MI Contam. Sites	LUST	UST	RCRIS (Haz. Waste)	AST	Other*			
3	Zips Party Store (Zirnhelms County Market)	3355 S State Rd	Davison			X-c	X				W	M/H	Gas Station
5	Vacant Garage, NE corner of Bristol Rd & M-15	Bristol Rd/M-15	Davison							X	W	M/H	Old Gas Station
7	Last Chance Party Store	5545 S State Rd	Davison						X	X	W	M/H	Old Gas Station
9	Burton Industries	6202 S State Rd	Goodrich					X			W	M/H	Haz Materials
22	Church & Sons Auto Center (Kellys Auto Repair)	8039 S State Rd	Goodrich			X-c	X	X	X		W	M/H	Gas Station
24	Quick-Sav Food Stores	10318 Hegel Rd	Goodrich				X	X			W	M/H	Gas Station
25	Vacant Lot, SE corner of Hawes & M-15	Hawes/M-15	Goodrich							X	W	M/H	Old Gas Station
28	Morts Barber Shop/Goodrich Cleaners	8191-93 State Rd	Goodrich							X	W	M/H	Old Gas Station
29	Town Pride Carpet	8217 State Rd	Goodrich							X	W	M/H	Old Gas Station
30	Goodrich Car Care (Oakhill Auto Restoration)	8221-23 S State Rd	Goodrich			X-o	X	X			W	M/H	Old Gas Station
38	Nu View Auto Glass/Car Wash	8355 State Rd	Goodrich			X-c	X	X			W	M/H	Old Gas Station
44	Vacant Commercial Bldg	Horton Rd & M-15	Goodrich							X	W	M/H	Old Gas Station
48	Recovery Systems Int. (Allflo Products)	160 N Ortonville Rd	Ortonville					X			W	M/H	Haz Materials
49	Engineering Tube Specialties (former dairy)	Ortonville Rd	Ortonville							X	W	M/H	Haz Materials
51	Rite Aid (Waterlock Solvents)	1 Mill Street	Ortonville					X			W	M/H	Old Dry Cleaners
52	Ace Hardware (Waterlock Solvents)	4 N Ortonville Rd.	Ortonville							X	W	M/H	Old Dry Cleaners
53	Marathon Station (CMS/Boron)	15 N Ortonville Rd.	Ortonville			X-o	X	X		X	W	M/H	Gas Station

Notes: * Other potential contamination sites identified by reconnaissance and/or interviews.

LUST - Leaking underground storage tank; X-c = Closed case; X-o = Open case.

UST - Underground storage tank AST - Aboveground storage tank

CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System

RCRIS – Resource Conservation and Recovery Information System

W = Within Right-of-Way, A = Adjacent to Right-of-Way.

Table 1-3c
Potential Contamination Sites Shown on Figure 1-3 (Continued)

SID No.	Site Name (Former Name or Use)	Address or Location	City	Records/ Observations							ROW W or A	Contamination Potential Rating	Comment
				CERCLIS/NPL	MI Contam. Sites	LUST	UST	RCRIS (Haz. Waste)	AST	Other*			
54	Closed Garage (Futura Collision)	12 M-15	Ortonville					X		X	W	M/H	Haz Mat/Old Gas Sta.
55	Little Caesars (former gas station)	11 S Ortonville Rd	Ortonville					X		X	W	M/H	Old Gas Station
64	Vacant Commercial Bldg (Bell Auto Parts)	384 Ortonville Rd	Ortonville							X	W	M/H	Haz Materials
70	Country Countertops	490 S Ortonville Rd	Ortonville								W	M/H	Old Gas Station
71	Clark Station	495 S Ortonville Rd	Ortonville				X	X		X	W	M/H	Gas Station
73	Brandon Tire & Auto Center	595 S Ortonville Rd	Ortonville					X			W	M/H	Haz Materials
81	Forster Auto Wash	880 S Ortonville Rd	Ortonville							X	W	M/H	Old Gas Station
83	James Lumber Co. (Brandon Building Center, Oxford Lumber)	910 S Ortonville Rd	Ortonville				X				W	M/H	Old UST Site
91	J & F Collision. Inc.	1342 S Ortonville Rd	Ortonville					X		X	W	M/H	Haz Materials
97	Eagle Point Shopping Center (former gas station)	1764-76 S Ortonville Rd	Ortonville							X	W	M/H	Old Gas Station
101	Alderman Animal Hospital (former gas station)	2140 S Ortonville Rd	Ortonville				X				W	M/H	Old Gas Station
106	Former Dump (near Solley's Appliances)	S Ortonville Rd	Clarkston							X	W	M/H	Old Dump
108	Oakhill Auto Parts/MVA Contr/City Press	3960-80 S Ortonville Rd	Clarkston					X		X	W	M/H	Haz Materials
110	And I Do (Oakhill Auto Restoration)	3994 S Ortonville Rd	Ortonville					X		X	W	M/H	Haz Materials
124	Mill Street Residential Wells	Mill Street	Ortonville		X						W	M/H	GW Contamination

Source: The Corradino Group

No known federal threatened and endangered species will be affected, although potential habitat for the Eastern massasauga rattlesnake (a candidate for federal listing) may be affected. One state-listed threatened species, the spotted turtle, was found. Additionally, three state-listed species of special concern could be affected, the wahoo (a plant), the red mulberry (a tree) and Blandings turtle. Eight other state-listed species could be present, as suitable habitat is available.

Table 1-3d
Potential Threatened or Endangered Species Sites Shown on Figure 1-3

Site #	Avoided/Affected	Species	Listing Status
Site 25	Site avoided	Wahoo	State special concern
Site 28	Site affected	Wahoo	State special concern
Site 34	Site avoided	Red mulberry	State special concern
Site 40	Site avoided	Blanding's turtle	State special concern
Sites 47 & 48	Site affected, but turtle habitat avoided	Spotted turtle	State threatened

Source: V3 Consultants

1.3.7 Cultural Resources and Parkland

The project would have adverse effects on several sites that are considered potentially eligible for the *National Register of Historic Places*, requiring a Memorandum of Agreement with the State Historic Preservation Officer (SHPO). Phase II analysis will be required at one archaeological site.

No parks will be affected.

1.3.8 Visual Conditions

The dominant visual characteristic of the corridor is large-lot residential uses punctuated by lakes and wetlands, and in Genesee County, rural landscapes, both natural and manmade (farmlands). Commercial strip development occurs near Ortonville and at the north and south ends of Goodrich. Commercial/office uses dominated the visual scene near Lippincott Road in Davison Township.

When improvements to M-15 were proposed in the early 1990s in the form of a five-lane road, those in the corridor expressed a desire for a more aesthetically pleasing road – a boulevard. The aesthetic attributes of the boulevard have been recognized to integrate better with the character of the corridor and so, the Preferred Alternative mixes five-lane and boulevard cross sections. Where the narrow boulevard “fits” with limited impacts, it has been proposed.

1.3.9 Hazardous Materials

Although further testing for hazardous materials is recommended at a number of sites, no substantial problems with contaminated materials are anticipated.

1.3.10 Soils and Utilities

Organic soils, especially in wetland areas, will require special construction techniques.

Reconstruction of M-15 at the north end of the corridor could affect sections of a sewer line along the west right-of-way line north at Bristol Road. A high-tension electrical line north of County Line Road would not be affected as the towers are well outside the right-of-way. Other effects on utilities would be consistent with normal utility relocation for roadway projects.

1.3.11 Secondary and Cumulative Impacts

A number of communities in the corridor expressed interest in controlling growth in interviews conducted for the study. The general trend has been to zone residential areas for large lot development. The lack of sewers has historically limited the density of development, including commercial and industrial uses.

The townships in the corridor have not pursued paving of local and county roads as travel alternatives to M-15 (Independence Township and, to a lesser extent, Davison Township are exceptions). Consequently, M-15 has been and continues to be the focus of growth and travel in the corridor. Tremendous growth in the employment base in Oakland County and a general movement to the outer limits of both Oakland and Genesee counties has resulted in a market for much residential development in the corridor as evidenced by the population growth data shown in Table 1-1.

Widening of M-15 addresses a need already in evidence. There is no indication that land use policies will limit growth to a level that the need for four lanes of through travel on M-15 is eliminated. Growth has and will occur whether or not M-15 is reconstructed. Reconstruction of M-15 keeps roadway development in step with overall development.

If nothing were done to improve M-15, growth will continue to occur. The population of the townships in the project area grew 29 percent over the last ten years with no improvement to M-15. Continued growth will lead to breakdown conditions on M-15 and the entire corridor will be over capacity during peak periods.

Increased traffic will be detrimental to community cohesion, if no action is taken.

Improving M-15 will improve air quality by reducing congestion, lessening idling, and smoothing traffic flow.

If nothing were done, crashes will increase at a faster rate than if the project were built. If nothing were done, it is estimated that there will be 707 crashes in 2025. It is estimated with the Preferred Alternative, M-15 will experience 644 crashes in 2025.

1.3.12 Energy

Energy will be used to construct the project. Fuel savings to motorists should be realized in the long term due to improved traffic flow. Motorists will also be able to maintain more constant traveling speeds, adding to their fuel savings.

1.3.13 Cost

The estimated cost of construction is \$ 78.4 million and right-of-way is \$ 34.9 million. Adding design and construction management costs, the result is a total project cost estimated at \$ 132.9 million.

1.4 Areas of Controversy

The principle areas of controversy, apart from typical issues arising out of right-of-way needs, are road widening through the Village of Goodrich (see letter and resolution in Appendix M), likely use of wetlands, and impacts to resources potentially eligible for the *National Register of Historic Places*.

1.5 Permits

Proposed construction activities will involve the need for permits in several areas. Impacts on bodies of water such as lakes, streams, drains and wetlands will require permits under federal and state law:

Federal

- Executive Order 11990
- Clean Water Act of 1977, as amended: Section 401, state Water Quality Certification; Section 402(p), National Pollutant Discharge Elimination System, stormwater permit; and, Section 404, related to dredge and fill.

Federal Executive Order 11990 states that when federal funds are used on a project, impacts to any wetland (regardless of size) will require that there be no practicable alternative to impacts on that wetland.

Section 401 of the Clean Water Act of 1977, as amended, requires certification from the state's water quality agency (MDEQ) to ensure that the discharge of dredged or fill material complies with the provisions of the Federal Water Pollution Control Act.

Section 402(p) of the Clean Water Act and subsequent regulation under 40 CFR 122.26 requires a National Pollutant Discharge Elimination System Storm Water discharge permit for construction projects that involve land clearing of five acres or greater. Permit application requirements include: 1) a location map and description of the nature of the construction activity; 2) location of the proposed discharge; 3) total area of the site and area to be disturbed; 4) an estimate of runoff coefficient of the site and the increase in impervious area after construction is complete; and, 5) the nature of the fill. The intent of these requirements is to reduce impacts on water quality during and after construction.

Section 404 of the Clean Water Act requires a permit from the U.S. Army Corps of Engineers for the excavation and discharge of dredged and/or fill material in "waters of the United States," including wetlands. Section 401 water quality certification from MDEQ is required prior to the Corps' issuance of the Section 404 permit.

State – Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended:

- Part 31, Water Resource Protection
- Part 301, Inland Lakes and Streams
- Part 303, 1979 Goemaere-Anderson Wetland Protection Act
- Part 365, 1974 Endangered Species Protection.

Parts 31 and 301 of Michigan Act 451 are administered by the MDEQ. A Part 31 permit (which is reviewed and issued with the Part 301 application) is needed to place fill material within any part of a floodplain with a drainage area of two square miles or more. A Part 301 permit is required for any work below the ordinary high-water mark of any inland lake, stream or drain, including the placement of any permanent or temporary river or stream structure.

A Part 303 wetland permit is required for any wetland disturbance, permanent, as well as temporary. The Part 303 permit is reviewed and issued with the Part 301 permit. A Part 303 permit is required before placement of a bituminous or concrete proportioning plant in any wetland area. The project engineer should have on file any agreements between the contractor and property owner, and a copy of the wetland permit, prior to the installation of any proportioning plants or placement of any fill in a private or public wetland.

A Part 365 Endangered Species Permit is required from the MDNR Wildlife Division for any activity that may impact a state-listed threatened or endangered fish, plant, or animal species. No endangered or threatened species were found; however, if any are identified during project implementation, all activity in the immediate area would cease. Coordination with the U.S. Fish and Wildlife Service would be initiated as required by Section 7 of the Endangered Species Act of 1973, and appropriate state and federal permits would be sought.

All bituminous and Portland Cement concrete proportioning plants and crushers must meet the requirements of the rules of the MDEQ. For any portable bituminous or concrete plant or crusher, the contractor must apply for a permit-to-install or general permit. This permit should be applied for a minimum of 30 calendar days before plant installation with an active MDEQ permit (or 60 calendar days for plants not previously permitted in Michigan).

Final mitigation measures proposed in areas requiring the above permits will be developed in consultation with the appropriate agencies, and will be included in the permit application for implementing the project.

1.6 Unresolved Issues

For this project to advance to design it must be included in MDOT's Long-Range Plan, and the long-range plans of the appropriate regional planning agencies – the Southeast Michigan Council of Governments (SEMCOG) and the Genesee County Metropolitan Planning Commission. The status of the M-15 Project with respect to these documents at the time of the writing of this Draft EIS is:

- MDOT's Build Michigan III Long-Range Plan – not listed
- SEMCOG's 2025 Regional Transportation Plan – not listed
- Flint Genesee County 2020 Long-Range Transportation Plan – not listed

1.7 Project Status

The environmental clearance for this project is tentatively scheduled for completion in early 2002. The project will need to be included in the SEMCOG 2025 Regional Transportation Plan and the Flint - Genesee County 2020 Long-Range Transportation Plan before the environmental clearance process can be completed. Then, final design and right-of-way acquisition could begin. There are no funds identified for this project in the current Build Michigan Program, which outlines roadway expenditures over the next five years. Consequently, the construction of the proposed improvement is not yet scheduled.